

WHAT IS CLAIMED IS:

1. A method for forming homogeneous mixture of powders of organic materials including at least one dopant component and one host component for use in thermal physical vapor deposition to produce an organic layer on a substrate for use in an organic light-emitting device, comprising:
 - a) combining organic materials, such materials including at least one dopant component and one host component to form a mixture of organic materials;
 - b) placing the mixture of organic materials in a container;
 - c) sealing the container in a reduced pressure environment;
 - d) heating the organic materials in the container until the organic materials are melted;
 - e) mixing the organic materials to form a homogeneous mixture of organic materials;
 - f) solidifying the homogeneous mixture of organic materials;and
 - e) removing the solidified homogeneous mixture of organic materials from the container.
- 2 The method of claim 1 further including:
 - h) pulverizing the solidified homogeneous mixture of organic materials into a homogeneous mixture of organic powder; and
 - i) compacting the homogenous mixture of organic powder, to form a pellet suitable for thermal physical vaporization to produce an organic layer on a substrate for use in an organic light-emitting device.
3. The method of claim 1 wherein the amount of dopant component varies between 0.1 and 20% by weight of the total mixture.
4. The method of claim 1 wherein the solidifying in element (f) includes mixing and cooling the homogenous mixture of organic materials until the materials are solidified.

5. The method of claim 2 wherein the compaction of the homogeneous mixture of organic powder to form a pellet is compacted in a range of pressures between 3,000 and 20,000 pounds per square inch.

6. The method of claim 1 wherein heating is provided by an air furnace operating in a range of temperatures between 300 to 700°C.

7. The method of claim 1 wherein the container is formed from glass or metal.

8. The method of claim 7, wherein the container includes high temperature metals Ta, W or Pt.

9. The method of claim 1 wherein the melting and heating includes placing the sealed container in a rotating air furnace.

10. The method of claim 1 wherein the reduced pressure environment is a pressure in a range of 10^{-1} to 10^{-3} Torr.

11. A method for forming homogeneous mixture of powders of organic materials including at least one dopant component and one host component for use in thermal physical vapor deposition to produce an organic layer on a substrate for use in an organic light-emitting device, comprising:

a) combining organic materials in a powder form having at least one host component and one donor component to form a mixture of organic materials;

b) placing the mixture of organic materials in an open ended container;

c) placing the open ended container inside a vacuum furnace;

d) heating the organic materials inside the vacuum furnace until they are melted;

e) mixing the organic materials to form a homogeneous mixture of organic materials.

f) solidifying the homogeneous mixture of organic materials;

g) removing the solidified homogeneous mixture of organic materials from the open ended container; and

h) pulverizing the solidified homogeneous mixture of organic materials into a homogeneous mixture of organic powder suitable for thermal physical vaporization to produce an organic layer on a substrate for use in an organic light-emitting device.

12. The method of claim 11 further including:

i) compacting the homogenous mixture of organic powder, to form a pellet suitable for thermal physical vaporization to produce an organic layer on a substrate for use in an organic light-emitting device.

13. The method of claim 11 wherein the amount of dopant component varies between 0.1 and 20% by weight of the total mixture.

14. The method of claim 11 wherein the solidifying in element (f) includes mixing and cooling the homogenous mixture of organic materials until the materials are solidified.

15. The method of claim 12 wherein the compaction of the homogeneous mixture of organic powder to form a pellet is compacted in a range of pressures between 3,000 and 20,000 pounds per square inch.

16. The method of claim 11 further includes providing a reduced pressure in a range of 10^{-3} to 10^{-6} Torr inside the vacuum furnace.

17. The method of claim 11 wherein the container is formed from glass or metal.

18. The method of claim 17, wherein the container includes high temperature metals Ta, W or Pt.

19. The method of claim 11 wherein the heating in element (d) includes placing the sealed container in a rotating vacuum furnace.

20. The method of claim 11 wherein heating is provided by a vacuum furnace operating in a range of temperatures between 300 to 700°C.